PE51U

PCI Express to ExpressCard External Adapter

User's Manual

Rev.1.0

RATOC Systems International

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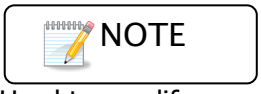
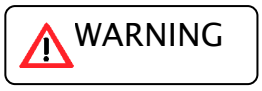
Advisories

Three types of advisories are used throughout this manual to provide helpful information, or to alert you to the potential for hardware damage or personal injury. They are Note, Caution and Warning. The followings is an example of each type of advisory.



Used to amplify or explain a comment related to procedural steps or text.



Used to indicate and prevent the following step from causing injury.

Used to indicate and prevent the following procedure or step from causing damage to the equipment.

1 Introduction

Thank you for purchasing the RATOC PCI Express to ExpressCard Adapter. This device allows to use ExpressCard on a desktop computer. Normally ExpressCard is need to inserted into the ExpressCard slot before system boot and never allow to exchange ExpreassCard after system boot both Windows PC and MAC pro. This product provide ExpressCard Hot-plug capable driver for Windows PC and MAC Pro. To install ExpressCard Hot-plug driver you can exchange ExpressCard at any time.

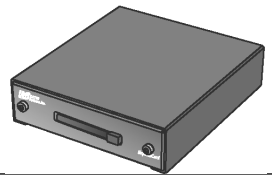
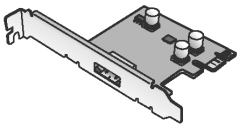
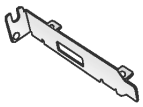
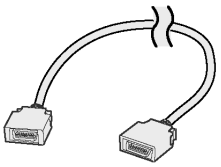
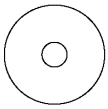
1-1.Feature

- To assure PCI Express signal quality signal repeater is located on the PCI Express board.
- To enable ExpressCard Hot-Plug capability Hot-Plug driver is provided for Windows PC and MAC Pro.
- Recommended as a SxS Pro compliant product on the web site below.
  https://www.oss-formats.org/en/sxs/outline/index.html

1-2.Pre-Installation Information

Before using ExpressCard adapter you should perform the following steps:
1. Inventory the shipping carton contents for all of the required parts
2. Read this manual

1-3.Package Contents

			
ExpressCard Adapter	PCI Express add-in card	Low Profile bracket	PCI Express extension Cable
		If any of these items are missing, contact the supplier immediately.	
CD-ROM	Manual		

1-4.System Requirements

- Supported Operating System
  Windows 7 / Windows Vista / Windows XP(Latest Service Pack should be installed)
  Mac OSX 10.4.11 or later / 10.5.6 or later / 10.6 or later
- Supported Computer
  Windows PC PCI Express slot equipped.
  Intel Mac Pro

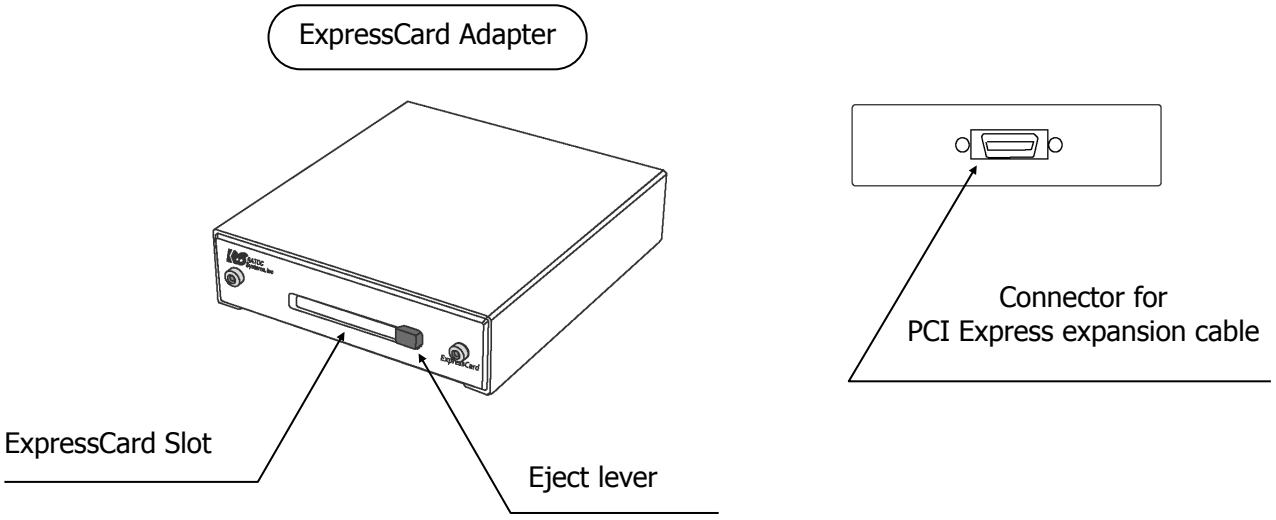
1-5.Supported ExpressCard

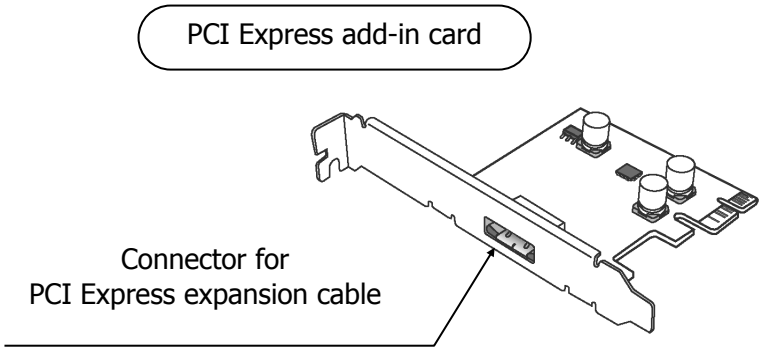
ExpressCard/34 (ExpressCard/54 is not supported.)

- Memory Card
  Sony SxS Pro, Flash memory, Media Reader
- Communication Card
  Wireless LAN Card, LAN Card, Data Communication Card, Mobile Communication Card
- Interface Card
  USB3.0 Host Card, Wireless USB Host Card

For the latest information, go to our web site.
http://www.ratocsystems.com/english

1-6.Layout





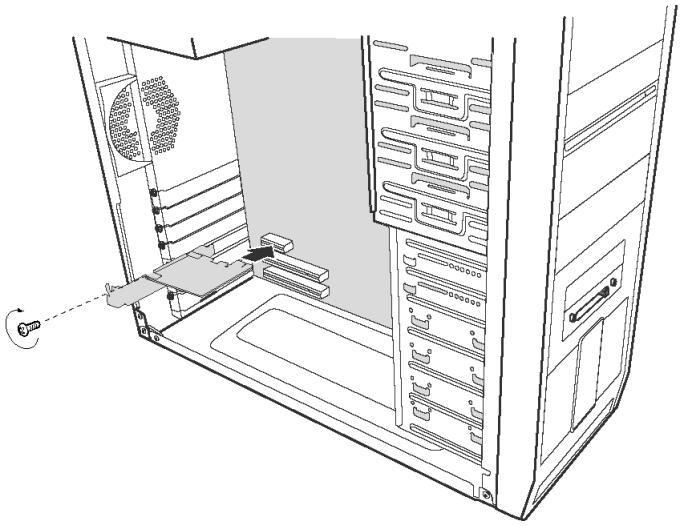
2 Setup

2-1.Installing the PCI Express add-in card and ExpressCard adapter

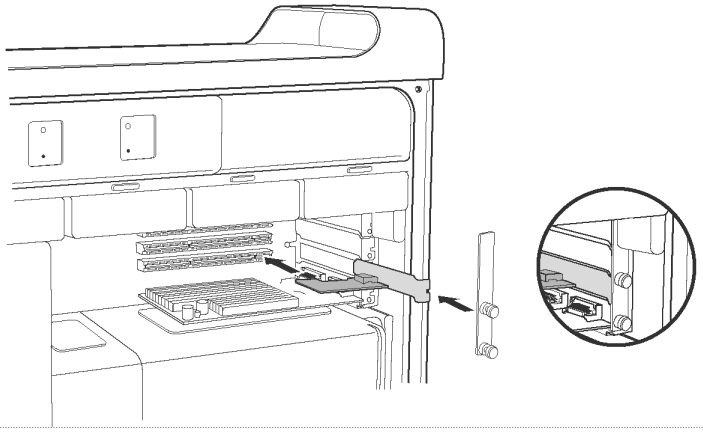
Shut down all power connected to the host computer

As an added step to ensure safe installation, unplug the power supply from the computer.

After the host computer is off and all power cords disconnected, remove the cover and insert the card into a vacant PCI Express slot by gently pushing the card until it is firmly seated. Be sure to secure the card with a retaining screw.



Windows PC

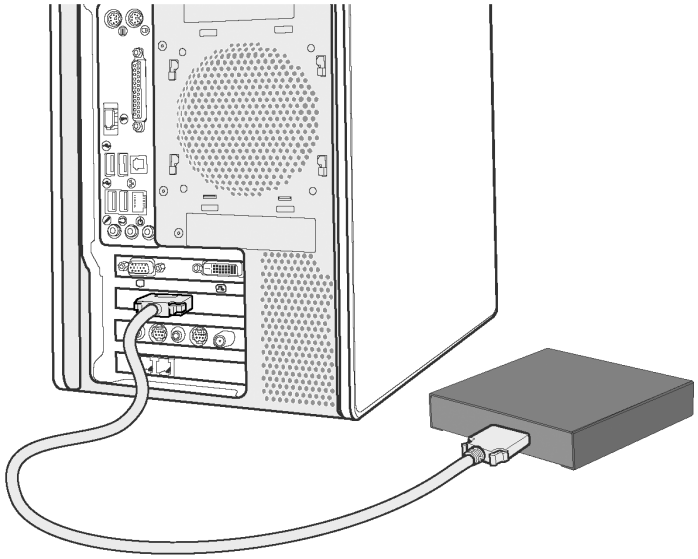


Mac Pro

CAUTION

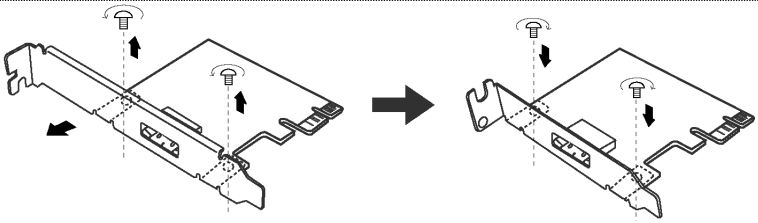
Electrostatic Discharge (ESD) is the enemy of semiconductor devices. You should always take precautions to eliminate any electrostatic charge from your body and clothing before touching any semiconductor device or card by using an electrostatic wrist strap and/or conductive mat.

Connect PCI Express add-in card and ExpressCard Adapter by the PCI Express extension cable



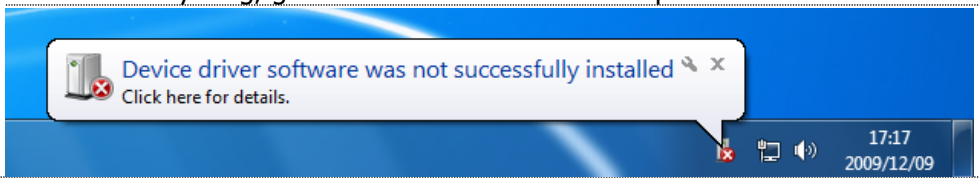
NOTE

If PCI Express slot of your computer is low profile, you need to change the bracket of PCI Express add-in card to low profile bracket.



2-2.Windows Software Installation Steps

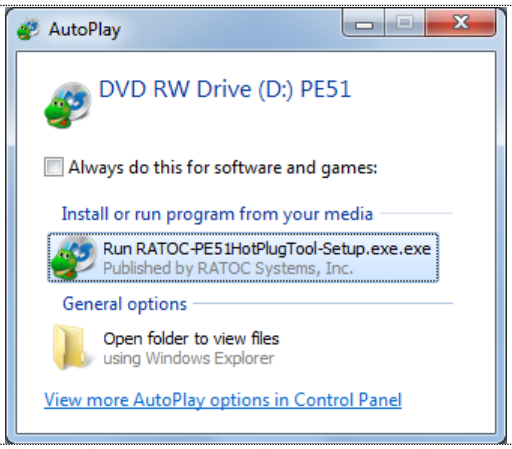
At the first system boot you will see the balloon message below. You do not need to do anything, go ahead to the installation steps below.



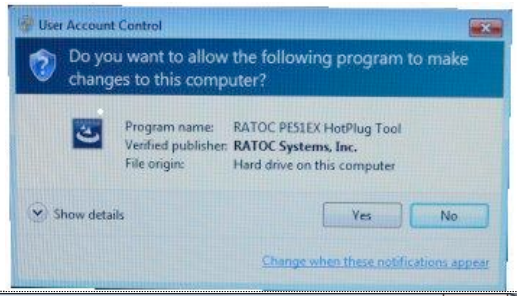
➢ Installation Steps

Following steps are example under Windows 7.

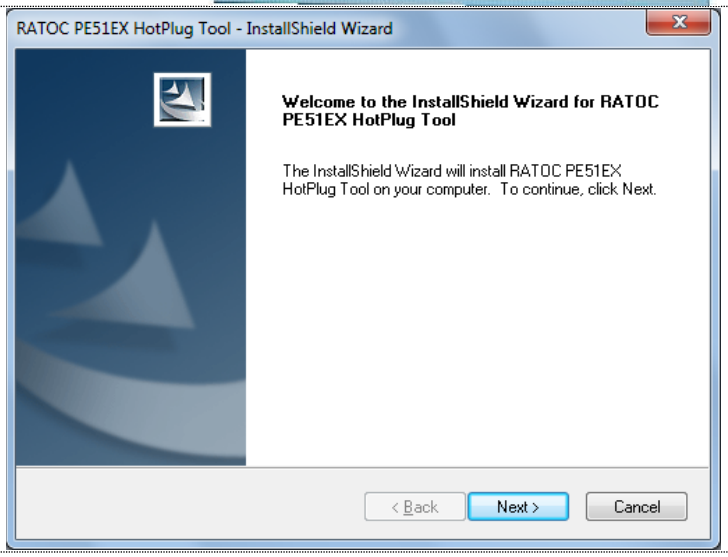
Insert the provided CD into your disc drive.
You will see the AutoPlay dialog box, click the "Run RATOC-PE51HotPlugTool-Setup.exe".


AutoPlay
DVD RW Drive (D:) PE51
Always do this for software and games:
Install or run program from your media
Run RATOC-PE51HotPlugTool-Setup.exe.exe
Published by RATOC Systems, Inc.
General options
Open folder to view files
using Windows Explorer
View more AutoPlay options in Control Panel

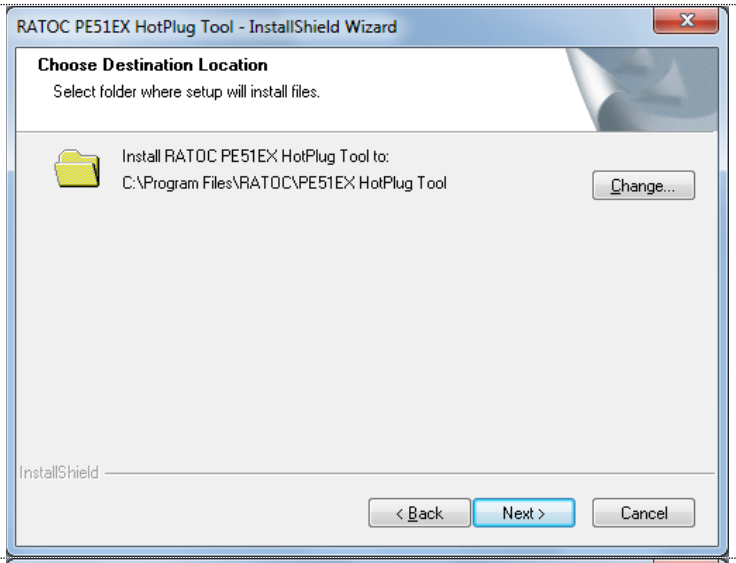
Under Windows 7 or Windows Vista you will see the "User Account Control" dialog box.
Click the "Yes" button.


User Account Control
Do you want to allow the following program to make changes to this computer?
Program name: RATOC PE51EX HotPlug Tool
Verified publisher: RATOC Systems, Inc.
File origin: Hard drive on this computer
Show details
Yes
No
Change when these notifications appear

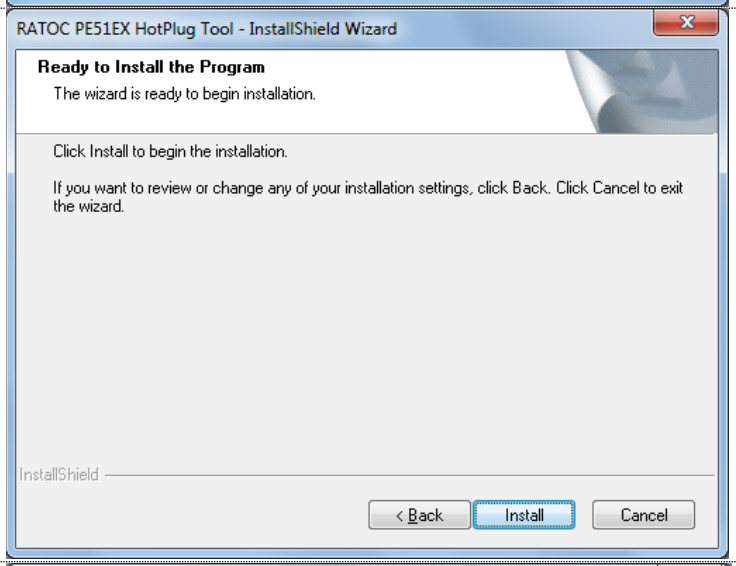
Installation will start, click the "Next >" button.


RATOC PE51EX HotPlug Tool - InstallShield Wizard
Welcome to the InstallShield Wizard for RATOC PE51EX HotPlug Tool
The InstallShield Wizard will install RATOC PE51EX HotPlug Tool on your computer. To continue, click Next.
< Back
Next >
Cancel

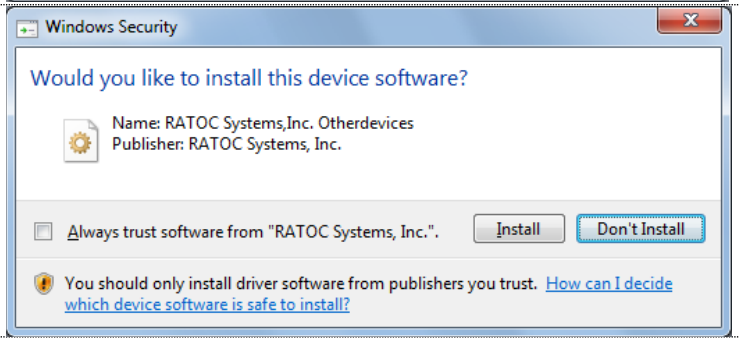
Confirm the destination location and click the "Next >" button.



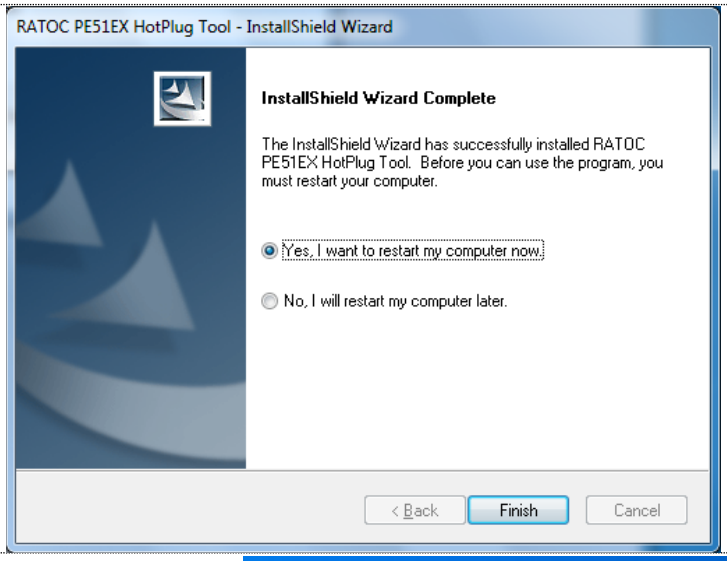
Click the "Install" button.


RATOC PE51EX HotPlug Tool - InstallShield Wizard
Ready to Install the Program
The wizard is ready to begin installation.
Click Install to begin the installation.
If you want to review or change any of your installation settings, click Back. Click Cancel to exit the wizard.
InstallShield
< Back
Install
Cancel

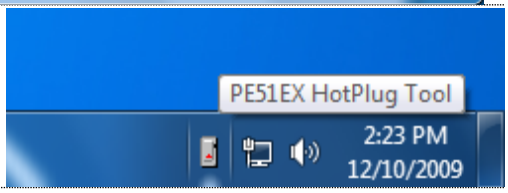
Security warning message will be displayed. Click the "Install" button.


Windows Security
Would you like to install this device software?
Name: RATOC Systems,Inc. Otherdevices
Publisher: RATOC Systems, Inc.
Always trust software from "RATOC Systems, Inc.".
Install
Don't Install
You should only install driver software from publishers you trust. How can I decide which device software is safe to install?

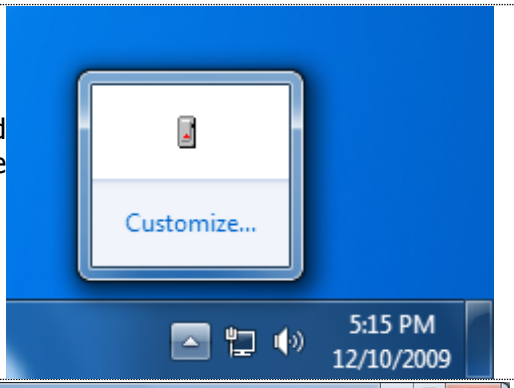
Installation complete.
Select the "Yes, I want to restart my computer now" and click the "Finish" button.


RATOC PE51EX HotPlug Tool - InstallShield Wizard
InstallShield Wizard Complete
The InstallShield Wizard has successfully installed RATOC PE51EX HotPlug Tool. Before you can use the program, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
< Back
Finish
Cancel

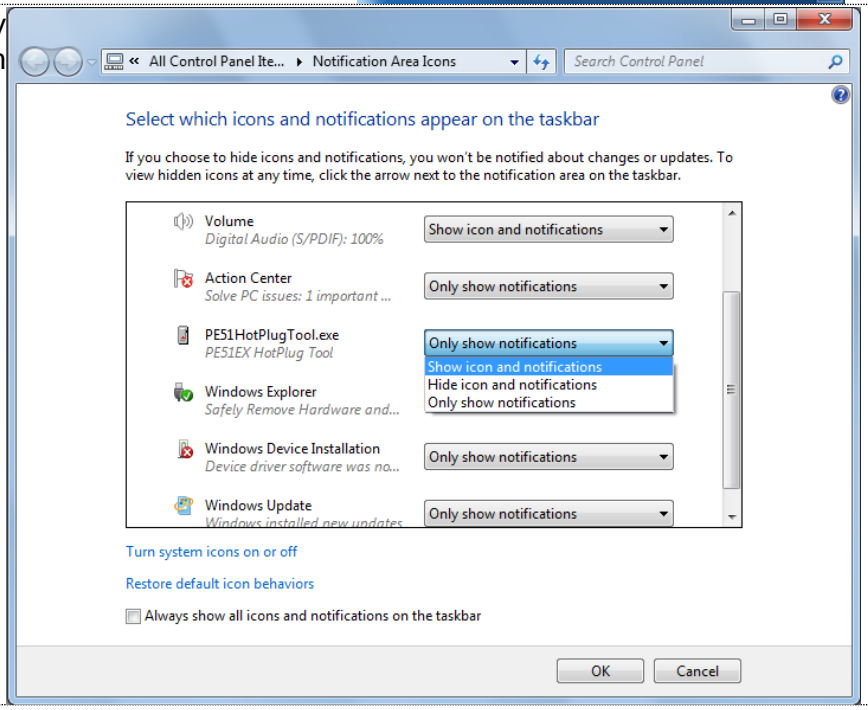
After system restart PE51U HotPlug Tool icon is stay on the TaskBar.



Under Windows 7 HotPlug Tool icon is hide. You should change the setting to view hide icon at any time from the "Customize…" menu.



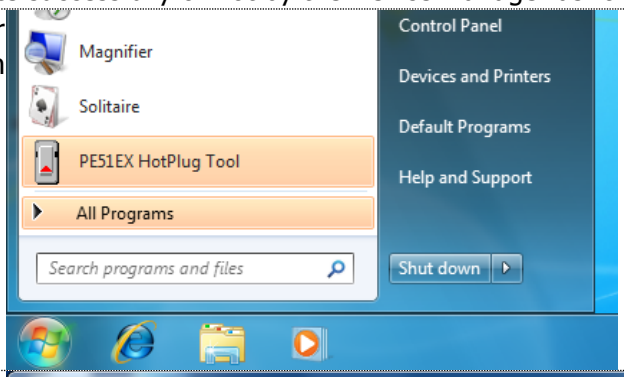
Change the setting from "Only show notification" to "Show icon and notifications".


All Control Panel Ite... ▸ Notification Area Icons
Search Control Panel
Select which icons and notifications appear on the taskbar
If you choose to hide icons and notifications, you won't be notified about changes or updates. To view hidden icons at any time, click the arrow next to the notification area on the taskbar.
Volume
Digital Audio (S/PDIF): 100%
Show icon and notifications
Action Center
Solve PC issues: 1 important ...
Only show notifications
PE51HotPlugTool.exe
PE51EX HotPlug Tool
Only show notifications
Show icon and notifications
Hide icon and notifications
Only show notifications
Windows Explorer
Safely Remove Hardware and...
Windows Device Installation
Device driver software was no...
Only show notifications
Windows Update
Windows installed new updates
Only show notifications
Turn system icons on or off
Restore default icon behaviors
Always show all icons and notifications on the taskbar
OK
Cancel

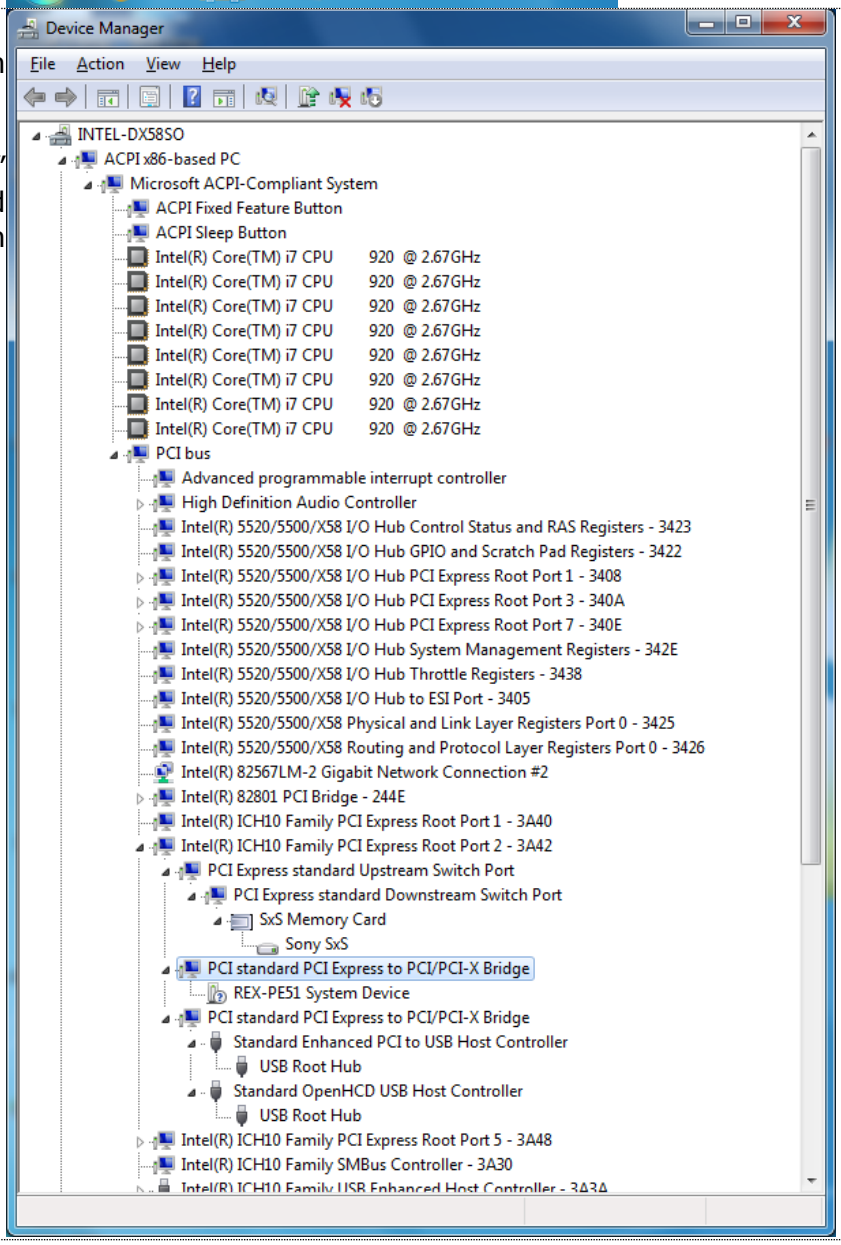
NOTE

You can confirm installation complete successfully or not by the Device Manager as follows.

Open start menu and enter "devmgmt.msc" at the "Search programs and files".



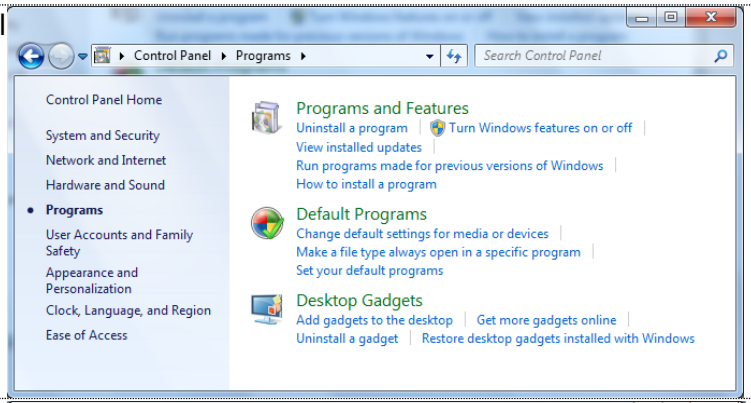
You will see the Device Manager.
Select "devices by connection" from the view menu.
Insert ExpressCard(ex.SxS pro).
If you can find "SxS Memory Card" under the "PCI Express standard Upstream Switch Port", installation complete successfully.


Device Manager
File Action View Help
INTEL-DX58SO
ACPI x86-based PC
Microsoft ACPI-Compliant System
ACPI Fixed Feature Button
ACPI Sleep Button
Intel(R) Core(TM) i7 CPU 920 @ 2.67GHz
PCI bus
Advanced programmable interrupt controller
High Definition Audio Controller
Intel(R) 5520/5500/X58 I/O Hub Control Status and RAS Registers - 3423
Intel(R) 5520/5500/X58 I/O Hub GPIO and Scratch Pad Registers - 3422
Intel(R) 5520/5500/X58 I/O Hub PCI Express Root Port 1 - 3408
Intel(R) 5520/5500/X58 I/O Hub PCI Express Root Port 3 - 340A
Intel(R) 5520/5500/X58 I/O Hub PCI Express Root Port 7 - 340E
Intel(R) 5520/5500/X58 I/O Hub System Management Registers - 342E
Intel(R) 5520/5500/X58 I/O Hub Throttle Registers - 3438
Intel(R) 5520/5500/X58 I/O Hub to ESI Port - 3405
Intel(R) 5520/5500/X58 Physical and Link Layer Registers Port 0 - 3425
Intel(R) 5520/5500/X58 Routing and Protocol Layer Registers Port 0 - 3426
Intel(R) 82567LM-2 Gigabit Network Connection #2
Intel(R) 82801 PCI Bridge - 244E
Intel(R) ICH10 Family PCI Express Root Port 1 - 3A40
Intel(R) ICH10 Family PCI Express Root Port 2 - 3A42
PCI Express standard Upstream Switch Port
PCI Express standard Downstream Switch Port
SxS Memory Card
Sony SxS
PCI standard PCI Express to PCI/PCI-X Bridge
REX-PE51 System Device
PCI standard PCI Express to PCI/PCI-X Bridge
Standard Enhanced PCI to USB Host Controller
USB Root Hub
Standard OpenHCD USB Host Controller
USB Root Hub
Intel(R) ICH10 Family PCI Express Root Port 5 - 3A48
Intel(R) ICH10 Family SMBus Controller - 3A30

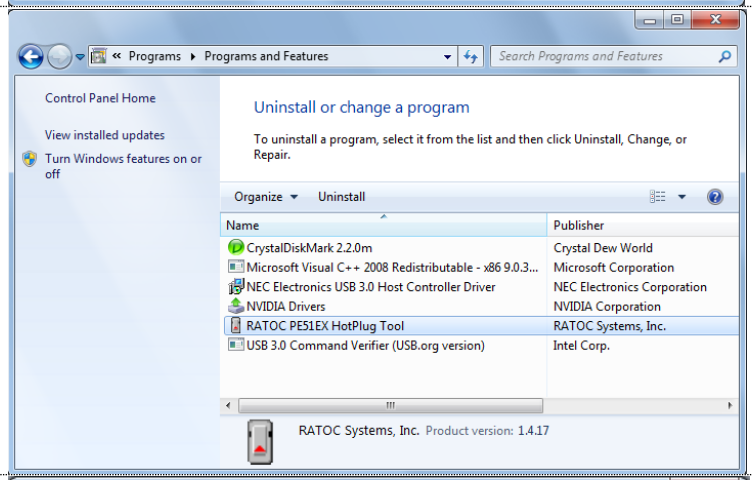
➢Uninstallation Steps

Following steps are example under Windows 7.

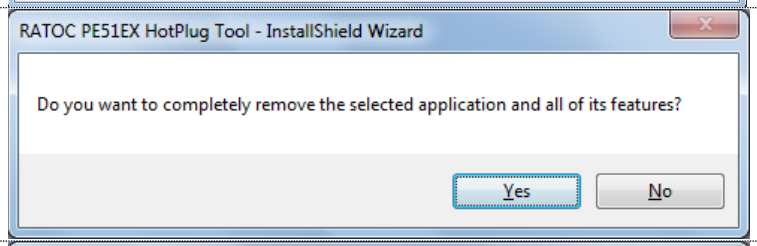
Open "Program" folder under control panel from start menu.
Click the "Programs and Features" icon.


Control Panel ▸ Programs ▸
Search Control Panel
Control Panel Home
System and Security
Network and Internet
Hardware and Sound
Programs
User Accounts and Family Safety
Appearance and Personalization
Clock, Language, and Region
Ease of Access
Programs and Features
Uninstall a program
Turn Windows features on or off
View installed updates
Run programs made for previous versions of Windows
How to install a program
Default Programs
Change default settings for media or devices
Make a file type always open in a specific program
Set your default programs
Desktop Gadgets
Add gadgets to the desktop
Get more gadgets online
Uninstall a gadget
Restore desktop gadgets installed with Windows

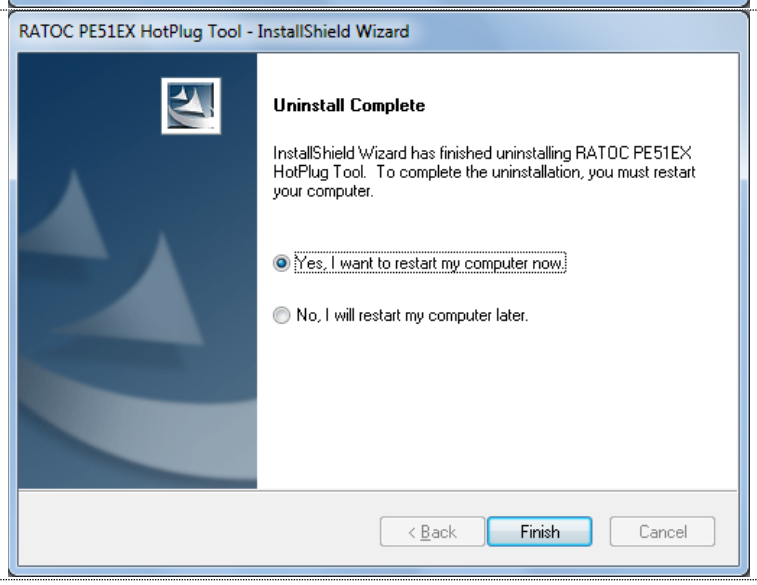
Click the "RATOC PE51U HotPlug Tool".


« Programs ▸ Programs and Features
Search Programs and Features
Control Panel Home
View installed updates
Turn Windows features on or off
Uninstall or change a program
To uninstall a program, select it from the list and then click Uninstall, Change, or Repair.
Organize
Uninstall
Name
Publisher
CrystalDiskMark 2.2.0m
Crystal Dew World
Microsoft Visual C++ 2008 Redistributable - x86 9.0.3...
Microsoft Corporation
NEC Electronics USB 3.0 Host Controller Driver
NEC Electronics Corporation
NVIDIA Drivers
NVIDIA Corporation
RATOC PE51EX HotPlug Tool
RATOC Systems, Inc.
USB 3.0 Command Verifier (USB.org version)
Intel Corp.
RATOC Systems, Inc. Product version: 1.4.17

Uninstallation will be start. Click the "Yes" button.


RATOC PE51EX HotPlug Tool - InstallShield Wizard
Do you want to completely remove the selected application and all of its features?
Yes
No

Uninstallation complete.
Select the "Yes, I want to restart my computer now" and click the "Finish" button.


RATOC PE51EX HotPlug Tool - InstallShield Wizard
Uninstall Complete
InstallShield Wizard has finished uninstalling RATOC PE51EX HotPlug Tool. To complete the uninstallation, you must restart your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
< Back
Finish
Cancel

2-3.MAC Software Installation Steps

Insert the provided CD into your disc drive. You will see following file and double click.

- Mac OS 10.4 : PE51_Device_Driver104x.dmg
- Mac OS 10.5 or 10.6 : PE51_Device_Driver.dmg

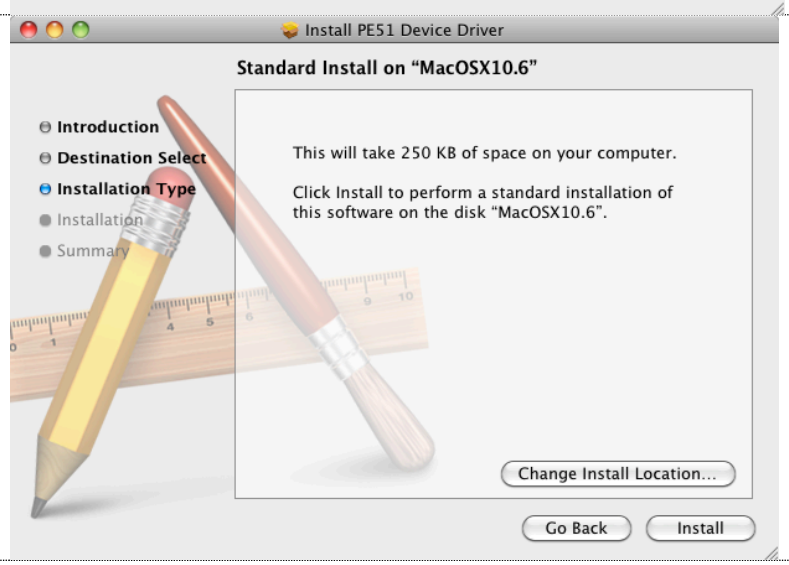
➢ Installation Steps

Followings are installation steps under Mac OS 10.6.

Double click the "PE51_Driver_Installer" icon and installation will be start.

Click the "Continue" button.

Click the "Install" button.

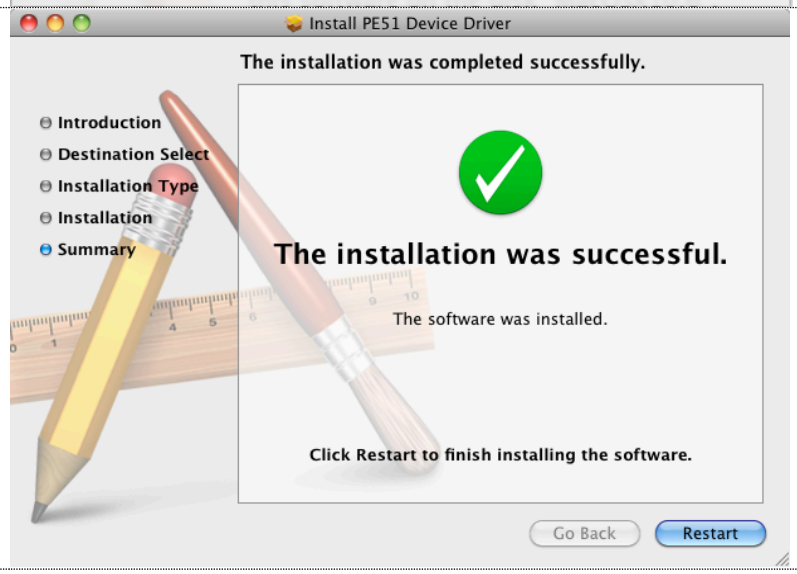


Enter your name and password.
Click the "OK" button.

Confirm the system restart message and click the "Continue Installation" button.

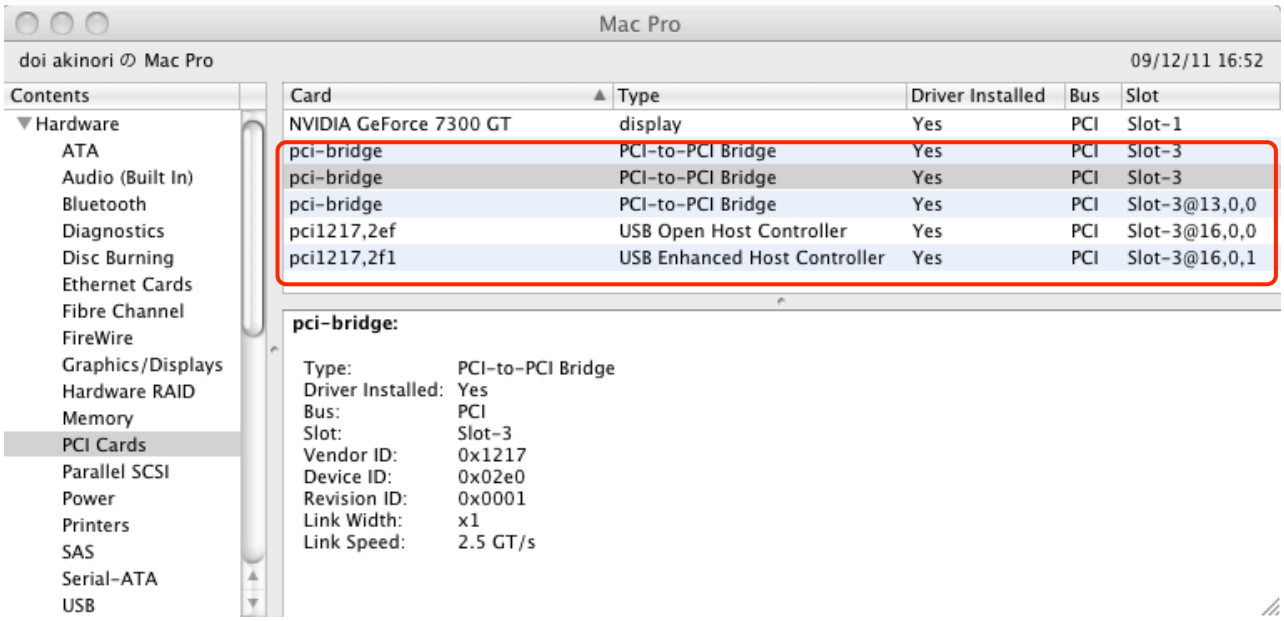
When this software finishes installing, you must restart your computer. Are you sure you want to install the software now?
Cancel
Continue Installation

Installation complete message will be displayed, click the "Restart" button.



NOTE

You can confirm installation complete successfully or not by the system profiler as follows.
1. Run the system profiler under utility folder of application.
2. Open the "PCI Cards" on the Hardware as show below.
3. If five kinds of driver is installed, installation complete successfully.



➢Uninstallation Steps

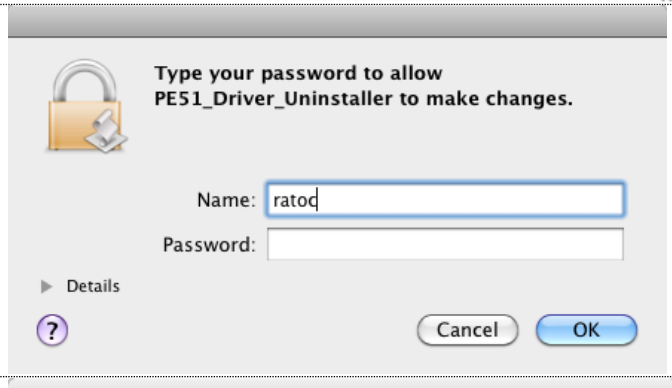
Followings are uninstallation steps under Mac OS 10.6.

Insert the provided CD into your disc drive. You will see following file and double click.

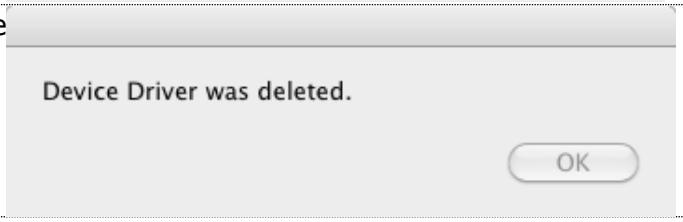
- Mac OS 10.4 PE51_Device_Driver104x.dmg
- Mac OS 10.5 or 10.6 PE51_Device_Driver.dmg

Double click the "PE51_Driver_Uninstaller" icon and uninstallation will be start.

Enter your name and password.
Click the "OK" button.



Uninstallation complete message will be displayed and click the "OK" button.



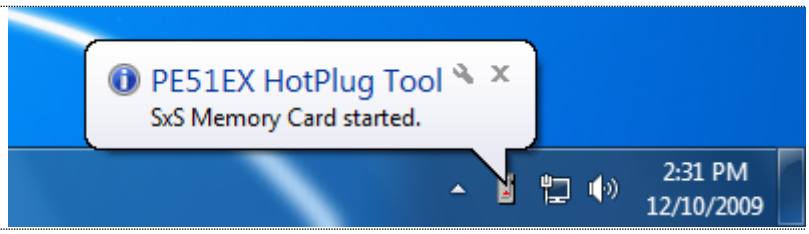
3 ExpressCard HotPlug Operation

3-1.Install 3rd Party ExpressCard driver

Install ExpressCard driver following 3rd party manufacturer's recommendations. Some ExpressCard manufacturers recommend that you install their software driver(s), if required, prior to insert ExpressCard to ExpressCard slot.

➢ Example (Windows PC)

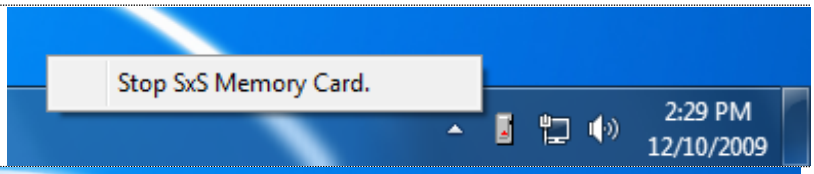
Insert ExpressCard to the slot and start balloon message will be displayed.



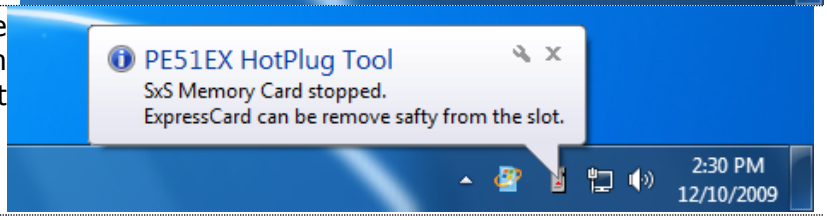
3-2. Windows PC ExpressCard Remove operation

Step.1

You must stop ExpressCard from HotPlug Tool icon menu first before remove ExpressCard from the slot.

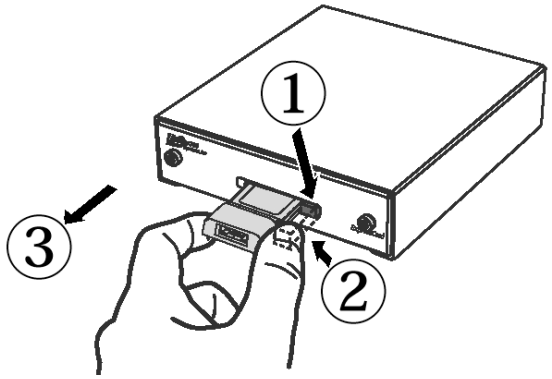


ExpressCard stop balloon message will be displayed. Now you can remove ExpressCard from the slot safely.



Step.2

Push out the eject lever(①), push the eject lever(②) again and pull out the ExpressCard(③).



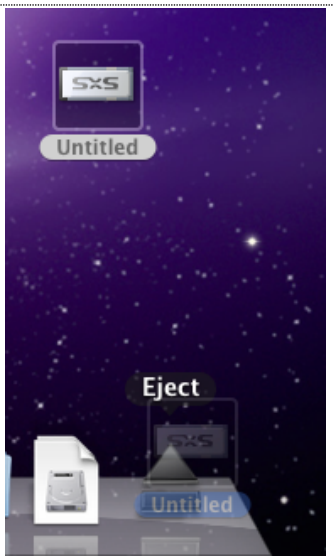
CAUTION

If you remove ExpressCard without above step.1 operation, Windows system will be freeze. Don't remove ExpressCard suddenly.

3-3. Mac Pro ExpressCard Remove operation

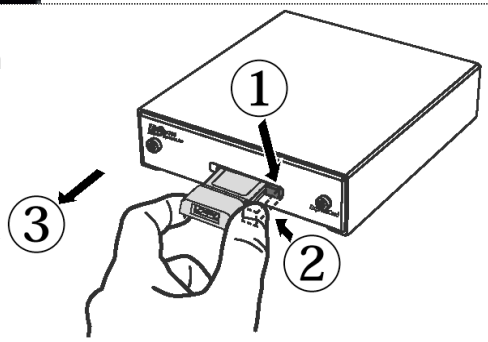
➢ Sony SxS Pro ExpressCard

Step.1
Drop the mounted drive icon to the trash box.



Step.2
Push out the eject lever(①), push the eject lever(②) again and pull out the ExpressCard(③).

If you remove ExpressCard without above step.1 operation, system will be freeze. Don't remove ExpressCard suddenly.

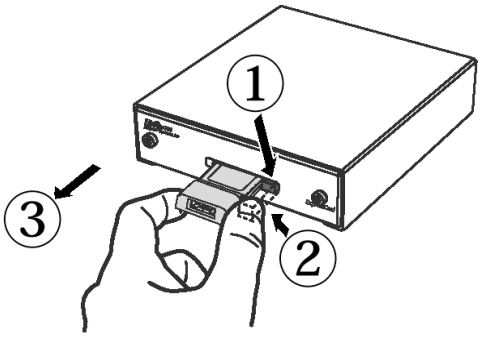


➢ Other ExpessCard

Step.1
Select "Power off Card" from the PC Card icon of menu bar.

Step.2
Push out the eject lever(①), push the eject lever(②) again and pull out the ExpressCard(③).

If you remove ExpressCard without above step.1 operation, system will be freeze. Don't remove ExpressCard suddenly.



4 Appendix

➢**Technical Specification**

Model Number	PE51U
Product name	PCI Express to ExpressCard External Adapter
PCI Express BUS Interface	PCI Express Specification Revision 1.1 PCI Express x1 Lane, 2.5Gbps
ExpressCard BUS Interface	ExpressCard Standard Release 1.0 PCI Express(2.5Gbps), USB2.0(480Mbps)
ExpressCard slot	1 slot ExpressCard/34
Max power supply capability (to ExpreassCard)	Max.1300mA/3.3V Max.275mA/3.3Vaux Max.650mA/1.5V
Dimension	ExpressCard Adapter 120(L) X 103.6(W) X 27.4(H) PCI Express add-in card 65.3(L) X 69.8(W) X 1.6(T)
Weight	Total 760g
Operating Environment	0ºC to 40ºC Operating Temperature -20ºC to 60ºC Storage Temperature
Operational Humidity	20 to 85% Relative Humidity, Non-condensing
Support OS	Windows 7 / Windows Vista (Latest Service Pack should be installed) Mac OSX 10.4.11 or later / 10.5.6 or later / 10.6 or later
Supported Computer	Windows PC PCI Express slot equipped. Intel Mac Pro
Regulatory Compliance	RoHS FCC Class B Verified
Warranty	1 Year

➢Compliance

- FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the followingmeasures:

(1) Reorient or relocate the receiving antenna.
(2) Increase the separation between the equipment and receiver.
(3) Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
(4) Consult the dealer or an experienced radio/TV technician for help.

Changes or modifications not expressly approved by the party responsible for compliance may result in this unit not complying with FCC Rules Part 15.

- CE

The product(s) described in this manual complies with all applicable European Union (CE) directives (EN55022 Class B/EN55024). RATOC will not retest or recertify systems or components that have been reconfigured by customers.

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